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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/749,938	12/31/2003	Michael Swafford	50037.0216US01	6670

27488 7590 04/20/2007  
MERCHANT & GOULD (MICROSOFT)  
P.O. BOX 2903  
MINNEAPOLIS, MN 55402-0903

EXAMINER
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BATAILLE, PIERRE MICHE

ART UNIT	PAPER NUMBER
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2186

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	04/20/2007	PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/749,938	<b>Applicant(s)</b> SWAFFORD ET AL.	
	<b>Examiner</b> Pierre-Michel Bataille	<b>Art Unit</b> 2186	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 29 January 2007.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-30 is/are pending in the application.
- 4a) Of the above claim(s) 10,20 and 30 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-9 11-19 21-29 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                                | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                       | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

**DETAILED ACTION**

***Response to Amendment***

1. The instant Office Action is taken in response to applicant's communication filed January 29, 2007 responding to Final rejection dated July 28, 2006. Applicant's amendments and/or arguments have been considered with the results that follow.
2. claims 1-9, 11-19, 21-29 are now pending in the application under prosecution as claims 10, 20, and 30 have been canceled by applicant's amendment.

***Response to Arguments***

3. Applicant's arguments with respect to claims 1-9, 11-19, and 21-29 have been considered but are moot in view of the new ground(s) of rejection.

***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 1-9, 11-19, and 21-29 are rejected under 35 U.S.C. 103(a) as being unpatentable over US 2004/00221120 (Abrashkevich et al) in view of US 7,158,991 (Kekre et al).

With respect to claim 1, Abrashkevich discloses a method for tagging an allocable memory block, comprising: determining the identity of a routine performing one of requesting the allocable memory block, requesting the size of the allocable memory block, and freeing the allocable memory block; generating an identifier for the

routine; and storing the identifier in the allocable memory block (par. 0039; 0041).

Abrashkevich fails to specifically teach storing a timestamp within the allocable memory block, wherein the timestamp indicates the time when one of requesting and freeing the allocable memory block is performed. However, Kekre discloses system and method for maintaining temporal data in data storage using a temporal volume that maintains the history of data that is stored on wherein an I/O request specifying timestamp for temporal data on the temporal volume [Col. 6, Lines 58-67], wherein new data is chained with old data and stamped with a given timestamp [Col. 12, Lines 25-47; Col. 13, Lines 41-57] and wherein returning data block to free pool or deleting allocated memory block features consulting a map for timestamp volume and for every region that is valid and delete allocated block with timestamp specifying the identified timestamps [Col. 19, Lines 18-33]. Therefore it would have been obvious to one of ordinary skill in the art, having both teachings before him at the time of the invention to store timestamp within allocable memory block, wherein the timestamp indicates the time when one of requesting and freeing the allocable memory block is performed, as taught by Kekre, with the allocated block of Abrashkevich, because the result would have achieved the effect of maintaining copies of one or more states of the data in the past whenever a block of data is to be changed, the existing block could be first preserved, and then the new data be overwritten, the old versions of a block are maintained even when the block is deleted by the application from the data, as taught by Kekre [Col. 1, Lines 50-60].

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With respect to claims 2-9, 12-19, and 22 –30, Abrashkevich discloses: examining the heap to determine the presence of memory errors; performing a checksum on the allocable memory block and storing the results of the checksum within the allocable memory block; examining the results of the checksum to determine the presence of memory errors; writing a memory overwrite detection pattern within the allocable memory block; the memory overwrite detection pattern is written within an area of the allocable memory block that is used for alignment purposes; an identifier is generated and stored for a routine that requests the allocable memory block and an identifier is generated and stored for a routine that frees the memory block; storing a heap index for the allocable memory block within the allocable memory block, wherein the heap index points to one of a plurality of heaps [Par. 0029, 0066-0070].

### ***Conclusion***

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.
7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Pierre-Michel Bataille whose telephone number is (571) 272-4178. The examiner can normally be reached on Mon, Tue-Fri (8:00A to 5:30P).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Matthew M. Kim can be reached on (571) 272-4182. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



Pierre-Michel Bataille  
Primary Examiner  
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